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Kenneth L. Inman

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Hanley, Flight & Zimmerman, LLC
150 S. Wacker Dr. Suite 2100
Chicago, IL 60606

EXAMINER

BOYCE, ANDRE D

ART UNIT

PAPER NUMBER

3623

MAIL DATE

DELIVERY MODE

01/05/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/829,405	Applicant(s) INMAN ET AL.	
	Examiner Andre Boyce	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13, 15-21, 23-29 and 31-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13, 15-21, 23-29 and 31-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Non-final office action is in response to Applicant's amendment filed October 20, 2008. Claims 1, 5, 9, 13, 17, 21, 25-29, 31 and 32 have been amended, while claims 6, 14, 22, and 30 have been canceled. Claims 33-42 have been added and claims 1-5, 7-13, 15-21, 23-29 and 31-42 are pending.
2. The previously pending objection to claim 6 has been withdrawn.
The previously pending rejections to claims 17-32 under 35 U.S.C. 101 have been withdrawn.

Claim Objections

3. Claims 38 and 39 are objected to because of the following informalities: The claims depend from claim 1, however, based upon the claim language, it seems as if the claims should depend from claim 37. The claims will be examined as if they depended from claim 37. Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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5. Claims 1-5, 7, 8, 33 and 37-42 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In order for a method to be considered a "process" under §101, a claimed process must either: (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials). *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). If neither of these requirements is met by the claim, the method is not a patent eligible process under §101 and is non-statutory subject matter.

With respect to independent claim 1 the claim language recites the steps of defining a base level population, defining a set of alternative variables, determining substitute split values, etc., with various "modules," however the claim language does not include the required tie or transformation, since the modules seem to simple be generic software not tied to any particular machine.

Claims 2-7, 8, 33, 38 and 39 are rejected based upon the same rationale, wherein the claim language does not include the required tie or transformation.

With respect to independent claims 37 and 40, the claim language recites receiving, in a computer system, a base level data set, defining a first segmentation tree; receiving, in the computer system, an alternate (level) data set, etc., however receiving data into a computer system is considered a nominal tie and insignificant extra solution activity that does not satisfy the requirement, since there is no indication that anything is done with the received data.

Claims 41-42 are rejected based upon the same rationale, wherein the claim language does not include the required tie or transformation.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 1, 5, 7-9, 13, 15-17, 21, 23-25, 29 and 31-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller et al (US 2002/0184077).

As per claim 1, Miller et al disclose a method for segmenting a population (i.e., segmentation system for classifying households into market segments, ¶ 0017), comprising: defining a base level population segmentation tree with a base segmentation tree defining module (i.e., population at node 1, figure 3 and partitioning module 510, figure 5); defining a set of alternative level variables with an alternative level variable defining module (i.e., partitioning module 510, figure 5), the set of alternative level variables useable as substitutes in the nodes of the population segmentation tree (i.e., populations split according to a plurality of decisions, ¶ 0021); and determining, with a substitute split value determining module (i.e., partitioning module 510, figure 5), substitute split values for each node of the substitute level tree to enable up and down shifting between levels of different precision (i.e., splits based upon a different decision, ¶ 0022), the substitute split value determining module to calculate the substitute split values that maintain a percentage split value of the substitute level tree that is equal to a percentage split

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value of the base level population segmentation tree (i.e., nodes 2 and 3 represent a equal percentage split using the same population node 1, figures 4 and 5).

As per claim 5, Miller et al disclose determining at least one segment using the substitute level tree (i.e., terminal nodes 4, 5, 8, 10-13, figure 4).

As per claim 7, Miller et al disclose the split values are for income and age (§ 0005).

As per claim 8, Miller et al disclose verifying the results of a segment determination when using substitute values (i.e., optimization of the segmentation, § 0046).

As per claim 33, Miller et al disclose wherein the base level population segmentation tree is based on at least one of demographic data or behavioral data for a set of consumers (i.e., generating a plurality of classification trees based on demographic and behavioral data, § 0018);

Claims 9, 13, 15-16 and 34 are rejected based upon the same rationale as the rejection of claims 1, 5, 7-8 and 33, respectively, since they are the system claims corresponding to the method claims.

Claims 17, 21, 23-24 and 35 are rejected based upon the same rationale as the rejection of claims 1, 5, 7-8 and 33, respectively, since they are the software system claims corresponding to the method claims.

Claims 25, 29, 31-32 and 36 are rejected based upon the same rationale as the rejection of claims 1, 5, 7-8 and 33, respectively, since they are the software product claims corresponding to the method claims.

As per claim 37, Miller et al disclose a method to segment a population (i.e., segmentation system for classifying households into market segments, ¶ 0017) comprising: receiving, in a computer system, a base level data set having a first precision (i.e., data set of figure 3 including a population at node 1 split based on decision 1 into nodes 2 and 3); defining a first segmentation tree in accordance with the base level data set, the first segmentation tree comprising a plurality of base level variables, each variable associated with a base level node and having a corresponding base level value (i.e., nodes 2-13 of figure 3 based upon decisions 1-6); receiving, in the computer system, an alternate data set having a second precision different from the first precision of the base level data set (i.e., data set of figure 4 including a population at node 1 split based on decision 5 into nodes 2 and 3); and defining a plurality of alternate level variables, each alternate level variable associated with an alternate level node and having a corresponding alternate level value to facilitate at least one of upshifting or downshifting relative to the base level data set (i.e., nodes 2-13 of figure 4 based upon decisions 1-6, but implemented in a different arrangement).

As per claim 38, Miller et al disclose defining a second segmentation tree in accordance with the alternate data set, the second segmentation tree comprising the plurality of alternate level variables and corresponding alternate level values (figure 4).

As per claim 39, Miller et al disclose calculating the corresponding alternate level value to maintain a similar percentage split between the base level node and the

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alternate level node (i.e., nodes 2 and 3 represent a equal percentage split using the same population node 1, figures 4 and 5).

As per claim 40, Miller et al disclose a method to segment a population (i.e., segmentation system for classifying households into market segments, ¶ 0017) comprising: receiving, in a computer system, a base level data set having a first precision; defining a segmentation tree in accordance with the base level data set (i.e., data set of figure 3 including a population at node 1 split based on decision 1 into nodes 2 and 3), the segmentation tree having a plurality of decision nodes, each comprising a base level variable and a base level value (i.e., nodes 2-13 of figure 3 based upon decisions 1-6); calculating a percentage split for each of the plurality of decision nodes of the segmentation tree, wherein the percentage split is calculated at the corresponding base level value for the corresponding base level variable (i.e., nodes 2 and 3 represent a equal percentage split using the same population node 1, figures 4 and 5); receiving, in the computer system, an alternate level data set having a second precision; selecting an alternate level variable from the alternate level data set for each of the plurality of decision nodes of the segmentation tree (i.e., data set of figure 4 including a population at node 1 split based on decision 5 into nodes 2 and 3), the alternate level variable selected in association with a relative similarity to the base level variable (i.e., nodes 2-13 of figure 4 based upon decisions 1-6, but implemented in a different arrangement); and calculating an alternate level value of the alternate level variable for each of the plurality of decision nodes, where the alternate level value is calculated to maintain the percentage split

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for each of the plurality of corresponding decision nodes (i.e., nodes 2 and 3 represent a equal percentage split using the same population node 1, figures 4 and 5).

As per claim 41, Miller et al disclose upshifting from the base level data set to the alternate level data set when the alternate level data set is more precise than the base level data set (i.e., switch from the data set of figure 3 to the data set of figure 4, based upon the optimization of a measure of behavior and the demographic data, ¶ 0024).

As per claim 42, Miller et al disclose downshifting from the base level data set to the alternate level data set when the alternate level data set is less precise than the base level data set (i.e., switch from the data set of figure 3 to the data set of figure 4, based upon the optimization of a measure of behavior and the demographic data, ¶ 0024).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-4, 10-12, 18-20 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al (US 2002/0184077), in view of Christiansen et al (USPN 6,202,053).

As per claims 2-4, Miller et al does not explicitly disclose determining whether a level shift is required, determining segments using the base level tree when no level shift is required, determining segments using another level when a level shift is required. Christiansen et al disclose in order to test the validity of the defined sub-populations, a representative sample of past applicants were re-scored with the new methodology and compared with their actual credit history (column 4, lines 25-28), wherein based upon on a specific attribute a group was further segmented (column 4, lines 62-67). In addition, a scorecard for sub-populations is developed taking into account the likelihood an account would ever be 90 days or more past due, wherein the scorecards are developed using the criteria validated with the sample population, wherein the sample population is analyzed using the newly created scorecards (column 5, lines 25-45). It would have been obvious to one having ordinary skill in the art to include segmentation validity testing and level shifting in Miller et al, as seen in Christiansen et al, since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claims 10-12 are rejected based upon the same rationale as the rejection of claims 2-4, respectively, since they are the system claims corresponding to the method claims.

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Claims 18-20 are rejected based upon the same rationale as the rejection of claims 2-4, respectively, since they are the software system claims corresponding to the method claims.

Claims 26-28 are rejected based upon the same rationale as the rejection of claims 2-4, respectively, since they are the software product claims corresponding to the method claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (571)272-6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on (571) 272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andre Boyce/
Primary Examiner, Art Unit 3623
January 2, 2009